INDEX

Metals Engineering Quarterly **Volume 4, 1964**

Index of Authors

(The first number cited is the issue number, the second is the page.)

Allen, R. C. ..... 1—36
Bahun, C. J. ..... 1—27
Batista, R. I. ..... 2—12
Bement, A. L. ..... 1—11
Bernacchi, B. T. ..... 4—57
Bertossa, Robert C. ..... 1—46
Brown, Donald A. ..... 2—21
Brown, I. MacP. ..... 1—18
Bunshah, R. F. ..... 4—9
Christian, J. L. ..... 3—53
Coburn, K. G. ..... 1—54
Collins, Samuel C. ..... 3—24
Crawford, J. D. ..... 4—1
Croucher, T. R. ..... 4—51
Dudley, Jr., E. F. ..... 4—57
Dunn, R. G. ..... 4—1
Eckert, L. A. ..... 1—14
Engquist, R. D. ..... 1—27
Epremian, Edward ..... 3—1
Forgione, J. ..... 4—19
Forss, S. Lennart ..... 3—27
Gerberich, W. W. ..... 4—23
Hadley, R. L. ..... 3—15
Hanks, G. S. ..... 2—12
Holshouser, William L. ..... 3—8
Hovis, James E. ..... 3—46
Humphrey, J. H. ..... 4—1
Huschke, Jr., Ernest G. ..... 3—37
Irvin, J. E. ..... 1—11
Johnson, Walter E. ..... 3—15
Kahles, John F. ..... 1—5
Kearns, T. F. ..... 2—1
King, Harry A. ..... 4—33
Lippitt, D. L. ..... 2—58
Lisk, Paul J. ..... 1—51
Loewenstein, Paul ..... 2—26
Mash, D. R. ..... 1—18
Matas, S. J. ..... 2—48
Murphy, D. J. ..... 2—12
Ouweneel, R. A. ..... 1—14
Pehlke, Robert D. ..... 2—42
Reichenbach, George S. ..... 3—21
Sernka, Richard P. ..... 4—43
Skeen, C. H. ..... 1—36
Thomsen, Erich G. ..... 2—32
Tuffin, Wilson B. ..... 2—26
Vos, P. M. ..... 1—14
Weinberg, Alvin M. ..... 1—1
Zlatin, Norman ..... 1—5

Subject Index

Adhesive joining
  Ceramic Adhesive-Braze Alloy Combination Technique ..... 2—21
Aircraft structures
  Failure in Aircraft Parts Made of Ultra-High-Strength Steels ..... 3—8
Alloy steels
  Case Hardening Steels by the Nitriding and Malcomizing Processes ..... 1—51
  The Influence of Alloying Elements on the Cold Deformation of Steel ..... 4—1
  Materials Usage Optimization in Electric Furnace Steel Production ..... 4—57
  high strength
    Failure in Aircraft Parts Made of Ultra-High-Strength Steels ..... 3—8
    Influence of Impurities and Related Effects on Strength and Toughness of High-Strength Steels 2—48
Alloying elements, effect of
  The Influence of Alloying Elements on the Cold Deformation of Steel ..... 4—1
Aluminum alloys
  Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Beryllium
  Effect of Purification on Some Mechanical Properties of Beryllium ..... 4—8
Bonding
  Metallurgical Bonding of Dissimilar Metals by Co-Extrusion ..... 2—26
Brazing materials
  Ceramic Adhesive-Braze Alloy Combination Technique ..... 2—21
  Furnace Brazing of Liquid Rocket Thrust Chambers ..... 3—37
Brazing techniques
  Furnace Brazing of Liquid Rocket Thrust Chambers ..... 3—37
  Methods for Brazing Unusual Metal Combinations ..... 1—46
Brittle transition temperature
  Influence of Impurities and Related Effects on Strength and Toughness of High-Strength Steels 2—48
Coating
  metallic
    Aluminum-Coated Steel Sheets ..... 1—54
  porcelain
    One-Coat Porcelain Enameling Steels ..... 3—15
Carbon steels
  The Influence of Alloying Elements on the Cold Deformation of Steel ..... 4—1
  Machining Data—Its Impact on the Economics of Machining of Carbon Steels ..... 1—5
  One-Coat Porcelain Enameling Steels ..... 3—15
Ceramic materials
  Ceramic Adhesive-Braze Alloy Combination Technique ..... 2—21
Cladding
  Methods for Brazing Unusual Metal Combinations ..... 1—46
Computer techniques
  Automatic Processing of Mechanical Properties Data ..... 1—11
  Design and Implementation of a Mechanized Data System for Special Alloy Materials in Rocket Hardware ..... 1—14
  Machining Data—Its Impact on the Economics of Machining of Carbon Steels ..... 1—5
  Materials Usage Optimization in Electric Furnace Steel Production ..... 4—57
  Simulation of a Basic Oxygen Furnace ..... 2—58
  Unidirectional Analysis of Heat Transfer During Continuous Casting ..... 2—42
Continuous casting
  Unidirectional Analysis of Heat Transfer During Continuous Casting ..... 2—42
Data processing
  Automatic Processing of Mechanical Properties Data ..... 1—11
  Design and Implementation of a Mechanized Data System for Special Alloy Materials in Rocket Hardware ..... 1—14
  Machining Data—Its Impact on the Economics of Machining of Carbon Steels ..... 1—5
  Materials Usage Optimization in Electric Furnace Steel Production ..... 4—57
  Metallurgy and Information ..... 1—1
  Simulation of a Basic Oxygen Furnace ..... 2—58
  Unidirectional Analysis of Heat Transfer During Continuous Casting ..... 2—42
Diffusion bonding
  Elevated-Temperature Diffusion Bonding of Tungsten to Tungsten Under Pressure ..... 2—12
Drawing
  MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Electric arc steelmaking
  Materials Usage Optimization in Electric Furnace Steel Production ..... 4—57
Enameling
  One-Coat Porcelain Enameling Steels ..... 3—15
Explosive forming
  MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Extrusion
  Metallurgical Bonding of Dissimilar Metals by Co-Extrusion ..... 2—26
  MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Fatigue testing
  Statistical Aspects of Failure Analysis, Case History of a Part ..... 4—18
Forming
  MPEP—The Metalworking Processes and Equip-

ment Program ..... 2—1
Fracture
Failure in Aircraft Parts Made of Ultra-High-Strength Steels ..... 3—8
Fracture mechanism
Current Trends in Testing Methods, Design and Materials for Fracture Toughness ..... 4—23
Delayed Static Failure ..... 4—51
Furnaces, heat treating
Mechanism of Heat Transfer or Putting the Btu's to Work ..... 3—46
Grain growth
One-Coat Porcelain Enameling Steels ..... 3—15
Graphite
The New Graphites ..... 3—1
Heat transfer
Mechanism of Heat Transfer or Putting the Btu's to Work ..... 3—46
Unidirectional Analysis of Heat Transfer During Continuous Casting ..... 2—42
High-strength steels
Failure in Aircraft Parts Made of Ultra-High-Strength Steels ..... 3—8
Influence of Impurities and Related Effects on Strength and Toughness of High-Strength Steels 2—48
Impurities, effect of
Influence of Impurities and Related Effects on Strength and Toughness of High-Strength Steels 2—48
Some Considerations in Shear Spin Processing .. 4—43
Iron, powder
Raw Materials and Properties in Ferrous Powder Metallurgy ..... 3—27
Lasers, uses
Metallurgical Applications of Lasers ..... 1—27
Literature techniques
Metallurgy and Information ..... 1—1
Low temperature, effect of
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Low-temperature refrigeration
Practical Means for Maintaining Very Low Temperatures ..... 3—24
Machinability data
Machining Data—Its Impact on the Economics of Machining of Carbon Steels ..... 1—5
Machining
Fundamentals of Metal Cutting ..... 2—32
Machining Data—Its Impact on the Economics of Machining of Carbon Steels ..... 1—5
Mechanical properties
Design and Implementation of a Mechanized Data System for Special Alloy Materials in Rocket Hardware ..... 1—14
Effect of Purification on Some Mechanical Properties of Beryllium ..... 4—8
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Fundamental Limitations on the Behavior of Small and Precise Mechanisms Imposed by Inherent Material Properties ..... 3—21
Materials Requirements for Thermionic Energy Conversion ..... 1—36
The New Graphites ..... 3—1
Nonmetallic Materials ..... 4—32
Structure and Properties of Plasma-Cast Materials ..... 1—18
Metal spraying
Structure and Properties of Plasma-Cast Materials ..... 1—18
Molybdenum, influence on deformation
The Influence of Alloying Elements on the Cold Deformation of Steel ..... 4—1
Nickel alloys
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Furnace Brazing of Liquid Rocket Thrust Chambers ..... 3—37
Nitriding
Case Hardening Steels by the Nitriding and Malcomizing Processes ..... 1—51
Nonmetallic materials
The New Graphites ..... 3—1
Nonmetallic Materials ..... 4—32
Nuclear reactor components
Methods for Brazing Unusual Metal Combinations ..... 1—46
Physical properties
Design and Implementation of a Mechanized Data System for Special Alloy Materials in Rocket Hardware ..... 1—14
Materials Requirements for Thermionic Energy Conversion ..... 1—36
Metallurgical Applications of Lasers ..... 1—27
The New Graphites ..... 3—1
Nonmetallic Materials ..... 4—32
Plastic deformation mechanism
Fundamentals of Metal Cutting ..... 2—32
The Influence of Alloying Elements on the Cold Deformation of Steel ..... 4—1
MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Plasticity
MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Refractory metals
Materials Requirements for Thermionic Energy Conversion ..... 1—36
Structure and Properties of Plasma-Cast Materials ..... 1—18
Rolling
MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Shear spinning
Some Considerations in Shear Spin Processing .. 4—43
Sintering
Raw Materials and Properties in Ferrous Powder Metallurgy ..... 3—27
Space vehicles
Design and Implementation of a Mechanized Data System for Special Alloy Materials in Rocket Hardware ..... 1—14
Furnace Brazing of Liquid Rocket Thrust Chambers ..... 3—37
Stainless steel
Case Hardening Steels by the Nitriding and Malcomizing Processes ..... 1—51
Ceramic Adhesive-Braze Alloy Combination Technique ..... 2—21
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Furnace Brazing of Liquid Rocket Thrust Chambers ..... 3—37
Statistical analysis
Statistical Aspects of Failure Analysis, Case History of a Part ..... 4—18
Steelmaking, physical chemistry of
Simulation of a Basic Oxygen Furnace ..... 2—58
Stress corrosion
Delayed Static Failure ..... 4—51
Structure, effect of
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Some Considerations in Shear Spin Processing .. 4—43
Tensile Properties
Influence of Impurities and Related Effects on Strength and Toughness of High-Strength Steels 2—48
Raw Materials and Properties in Ferrous Powder Metallurgy ..... 3—27
Test methods
Current Trends in Testing Methods, Design and Materials for Fracture Toughness ..... 4—23
Delayed Static Failure ..... 4—51
Titanium alloys
Effects of Chemistry and Processing on the Mechanical Properties of Engineering Alloys at Cryogenic Temperatures ..... 3—53
Tungsten
Elevated-Temperature Diffusion Bonding of Tungsten to Tungsten Under Pressure ..... 2—12
Ultrasonics, use of
MPEP—The Metalworking Processes and Equipment Program ..... 2—1
Vitreous enameling
One-Coat Porcelain Enameling Steels ..... 3—15
Wear properties
Fundamental Limitations on the Behavior of Small and Precise Mechanisms Imposed by Inherent Materials Properties ..... 3—21
Zone melting
Effect of Purification on Some Mechanical Properties of Beryllium ..... 4—8

1—14
1—36
1—37
3—1
4—32
2—32
4—1
2—1
2—1
1—36
1—18
2—1
4—43
3—27
1—14
3—37
1—51
2—21
3—53
3—37
4—18
2—58
4—51
3—53
4—43
2—48
3—27
4—23
4—51
3—53
2—12
2—1
3—15
3—21
4—6